NRL and NASA Team to Offer Unique Teacher Resource

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The Naval Research Laboratory teamed with the NASA Education Office at NASA John C. Stennis Space Center on Dec. 10 and 11 to offer a select group of science educators in the area a unique no -cost training opportunity — to build and operate underwater robots.

David Lalejini, an employee of the Naval Research Laboratory at NASA's John C. Stennis Space Center, helped a pair of teachers deploy a remotely-operated underwater Sea Perch robot during workshop activities Dec. 11. The Stennis Education Office teamed with U.S. Naval Research Laboratory counterparts to conduct a two-day workshop Dec. 10-11 for Louisiana and Mississippi teachers. During the no-cost workshop, teachers learned to build and operate Sea Perch robots. The teachers now can take the Sea Perch Program back to students, offering an inexpensive hands-on activity designed to inspire continued studies in science, technology, engineering and mathematics.
PHOTO CREDIT - NASA

Teachers from Louisiana and Mississippi spent two days at Stennis learning how to build and use Sea Perch, a remotely operated underwater robot. The teachers now can take the Sea Perch Program back to their students, offering a hands-on activity designed to inspire continued studies in science, technology, engineering and mathematics (STEM).

"This is an exciting program in an area of growing importance," said Katie Wallace, director of the Stennis Education Office. "Our NASA office has been looking for opportunities to work with the Navy, and robotics is an area both of us are involved in, so it's a natural fit. Partnering together provides us both a new way to reach teachers and students."

The Stennis office and NRL personnel partnered earlier in the year to introduce the underwater robot to youth ages 13-15 attending an annual Astro STARS camp. After completing final assembly of robots, the campers had a chance to operate them in an onsite swimming pool. Response from camp participants was good, providing the impetus to offer a pilot teacher training session.

During the two-day workshop, nine area teachers assembled robots from start to finish and spent several hours learning to operate them. Feedback from the teachers will be collected in coming weeks, with hopes that the program can be expanded in 2011.

The robots used are simple underwater Sea Perch vehicles made from PVC pipe and other inexpensive, easily available materials. The Sea Perch Program was created by the Massachusetts Institute of Technology Sea Grant College Program in 2003 to encourage underwater studies and is funded by the National Defense Education Program.

Teachers work with students to build their own Sea Perch robots and modify them to conduct research missions in nearby bodies of water. Students then are able to enter water quality data into the Sea Perch Data Bank, an international water quality online database. Collected data is integrated into state-of-the-art GIS maps and comparative graphs, which can be accessed by students and teachers to use in classroom exercises and projects.

Scientists from Stennis Space Center will augment the teachers' Sea Perch lessons in the classroom during the spring semester, providing practical applications and real-world examples of the STEM lessons they learn as part of the Sea Perch program.

"The Navy operates underwater robots every day from right here at Stennis Space Center," said Dr. Joe Calantoni of the Naval Research Lab. "We want to not only excite students about STEM in general, but also to show our local students that they don't have to leave home to study the depths of the sea or the far reaches of space."

"Much has been said about the importance of inspiring students to pursue studies and even careers in the areas of science, technology, engineering and math," Wallace said. "This is exactly the kind of hands-on, interactive exercise that can provide that inspiration."